

a buffer memory for receiving and storing portions of the image data; and

- 5 a processing unit for averaging groups of the image data, determining if the respective groups represent one of a neutral and non-neutral color, and identifying one of the pixels within the respective groups to being one of a plurality of neutral and non-neutral colors.

10. The system for detecting neutral colors as set forth in claim 9, wherein the processing unit transforms all of the image data within a respective group into a color space capable of forming neutral colors from both a combination of non-neutral colorants and a neutral colorant, the processor
5 rendering the image data within the groups identified as being one of the neutral colors using only the neutral colorant and rendering the image data within the groups identified as one of the non-neutral colors using the combination of the neutral and non-neutral colorants.

11. The system for detecting neutral colors as set forth in claim 10, wherein the color space is $L^*C^*h^*$.

12. The system for detecting neutral colors as set forth in claim 10, further including:

an output device for outputting the rendered image data.

13. The system for detecting neutral colors as set forth in claim 12, wherein the output device is a color printing device.

14. The system for detecting neutral colors as set forth in claim 9, wherein the processing unit determines if the respective groups represent one of the neutral and the non-neutral colors by comparing average color identifiers of the respective image data within the groups with a threshold function.

15. The system for detecting neutral colors as set forth in claim 9, wherein the processing unit segments the image for identifying rendering classes in the image and determining if the respective groups of the image data are included in any of the classes, the processing unit determining if the respective groups represent one of the neutral and the non-neutral colors as a function of whether the group of the image data is included in one of the classes.

16. A method for detecting neutral colors, the method comprising:

inputting a group of pixels within an image into a buffer memory, a
color of each of the respective pixels being one of a plurality of neutral and a
5 plurality of non-neutral colors;

determining an average color of the group of pixels; and
detecting if the group of pixels represents one of the neutral colors
as a function of the average color.

17. The method for detecting neutral colors as set forth in claim 16:

wherein the inputting step includes:

5 scanning image data representing the group of pixels into the
 buffer memory in an RGB color space;

the method further including:

transforming the average color into one of a L*a*b* and a L*C*h* color space;

the detecting step including:

10 comparing the average color of the one of the L*a*b* color
space data and the L*C*h* color space data with a threshold function value,
which is determined as a function of L*.

18. The method for detecting neutral colors as set forth in claim 16, further including:

if the group of pixels is detected as one of the neutral colors,
rendering one of the pixels of the group in a CMYK color space using only a
5 neutral colorant; and

if the group of pixels is detected as one of the non-neutral colors,
rendering one of the pixels of the group in the CMYK color space using a plurality
of colorants forming the CMYK color space.

19. The method for detecting neutral colors as set forth in
claim 18, further including:

outputting the rendered group of pixels to a color printing device.

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